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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/812,986

03/31/2004

Yun-Ho Jung

8733.657.10-US

5992

7590

02/23/2005

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EXAMINER

SMOOT, STEPHEN W

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/812,986

Applicant(s)

JUNG, YUN-HO

Examiner

Stephen W. Smoot

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/157,201.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3-31-04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

This Office action is in response to application papers filed on 31 March 2004, which includes a preliminary amendment that has been entered.

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Sequential Lateral Solidification Mask with Stripe-Shaped Portions for Transmitting Laser Light.

2. The disclosure is objected to because of the following informalities:

Update the Cross-Reference section (see Preliminary Amendment filed on 31 March 2004, page 2) to indicate that 10/157,201 has issued as US 6,736,895; and

The first paragraph of the originally filed specification should be deleted because this information has been incorporated into the Cross-Reference section as amended on 31 March 2004.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 7 is rejected under 35 U.S.C. 102(e) as being anticipated by Voutsas et al. (US 6,573,163 B2).

Referring to Figs. 1, 2 and column 3, line 66 to column 5, line 20, Voutsas et al. (US 6,573,163 B2) disclose a mask (18) with rectangular slits (29, 31) for projecting an image from a laser source (12) onto a substrate (16). These are all of the limitations set forth in claim 7 of the applicant's invention.

5. Claims 7, 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Voutsas et al. (US 6,792,029 B2).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Referring to Fig.10, column 1, lines 8-22, column 3, lines 27-30, and column 4, lines 30-39, Voutsas et al. (US 6,792,029 B2) disclose modifying the slits (52) of a mask (50), used to shape a laser beam for crystallizing amorphous material, by patterning the mask to have triangular end regions. These are all of the limitations set forth in claims 7, 8 of the applicant's invention.

6. Claims 7, 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Crowder (US 6,767,804 B2).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Referring to Fig.12, column 2, lines 37-58, and column 4, lines 25-37, Crowder discloses a sequential lateral solidification mask with slits for shaping a transmitted laser beam into beamlets that have a width (W) that is wider than the gap (g) between adjacent beamlets. These are all of the limitations set forth in claims 7, 10 of the applicant's invention.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voutsas et al. (US 6,573,163 B2) as applied to claim 7 above, and further in view of Uchida (JP 62-026884 A – from applicant's IDS).

As shown above, Voutsas et al. (US 6,573,163 B2) anticipate claim 7 of the applicant's invention. However, Voutsas et al. (US 6,573,163 B2) lack the further limitation to claim 7 set forth in claim 9 of the applicant's invention, which is a mask with stripe shaped light-transmitting portions that have semicircular shaped edges. Uchida teaches a strip-shaped mask with ends that are configured to be semicircular in shape (see abstract).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Voutsas et al. (US 6,573,163 B2) and Uchida in order to round the edges of the slits taught by Voutsas et al. (US 6,573,163 B2) into a semicircular shape as taught by Uchida. Uchida recognizes that the semicircular shape of the edges improves the optical cracking level of crystals that are exposed with a laser beam.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voutsas et al. (US 6,573,163 B2) as applied to claim 7 above.

As shown above, Voutsas et al. (US 6,573,163 B2) anticipate claim 7 of the applicant's invention. However, Voutsas et al. (US 6,573,163 B2) lack the further

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limitation to claim 7 set forth in claim 11 of the applicant's invention, which is a light transmitting stripe width that is less than or equal to twice the maximum length of lateral grain growth.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the mask of Voutsas et al. (US 6,573,163 B2) by adjusting the width of the slit to meet the limitation of claim 11 through routine experimentation, unless the applicant can show that this limitation achieves unexpected results relative to the prior art of Voutsas et al. (US 6,573,163 B2). See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955), in which it was held "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation".

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jung and Kang et al. teach masks with slit-shaped openings for the sequential lateral solidification of amorphous silicon.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen W. Smoot whose telephone number is 571-272-1698. The examiner can normally be reached on M-F (8:00 am to 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sws

*Stephen W. Smoot*  
Patent Examiner  
Art Unit 2813